PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF U.S. 40 AND MD 222 IN CECIL COUNTY. U.S. 40 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE OPERATION WITH THE U.S. 40 APPROACHES OPERATING CONCURRENTLY AND THE MD 222 APPROACHES OPERATING SPLIT.

LEAD EXCLUSIVE LEFT-TURN PHASING IS PROVIDED FOR EASTBOUND AND WESTBOUND U.S. 40 APPROACHES AND LAG EXCLUSIVE LEFT-TURN PHASE IS PROVIDED FOR EASTBOUND U.S. 40 APPROACH.

ALTERNATE PEDESTRIAN PHASES ARE PROVIDED ACROSS THE WEST LEG OF U.S. 40. AND PEDESTRIAN INDICATIONS ARE PRVIDED ACROSS BOTH LEGS OF MD 222.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH FOUR(4) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 487-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.00 - 104.00-30
STANDARD NO. MD-104.37-01 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.38-01 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.41-01 (INTERSECTION FAR-RIGHT LANE CLOSURE)
STANDARD NO. MD-104.43-01 (SHOULDER WORK)
STANDARD NO. MD-104.44-01 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.45-01 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.46-01 (CENTER LANE CLOSURE)
STANDARD NO. MD-104.48-01 (INTERSECTION TURN BAY LANE CLOSURE)
STANDARD NO. MD-104.49-01 (SHOULDER WORK)

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9002	4 EACH	FOUR CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER
9081	1 EACH	EIGHT PHASE, FULL TRAFFIC-ACTUATED CONTROLLER WITH INTERSECTION MONITOR AND HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
9089	72 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
	- 2 EACH	D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT
	- 2 EACH	R3-5(L) SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT
	- 1 EACH	R3-5(R) SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT
	- 2 EACH	M95-1 SIGN (72 IN. x 24 IN.) - MAST ARM MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME PROPERTY OF THE CONTRACTOR.

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. RICHARD LINDSAY
DISTRICT ENGINEER
PHONE: (410) 810-3210

MR. ROBERT KIEL
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 810-3240

MR. TERRY WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 810-3250

MR. BARRY CLOTHIER
DISTRICT UTILITIES ENGINEER
PHONE: (410) 810-3060

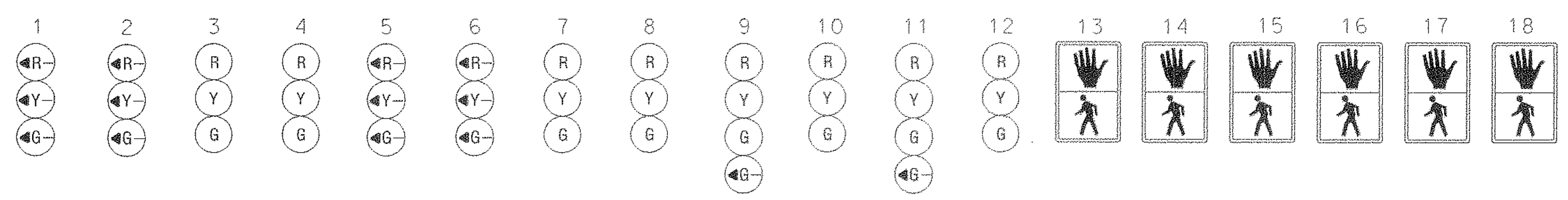
MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2001	60 C.Y.	CLASS 2 EXCAVATION
2002	15 C.Y.	TEST PIT EXCAVATION
5004	950 L.F.	12 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MAKINGS
5005	45 L.F.	24 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MAKINGS
5008	200 L.F.	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH
6001	240 L.F.	FURNISH AND INSTALL DEPRESSED CURB AND GUTTER
6004	2000 L.F.	4 INCH CONCRETE SIDEWALK
8006	4 EACH	CUT, CLEAN, GALVANIZE, AND CAP TRAFFIC SIGNAL STRUCTURE
8010	12 EACH	FURNISH AND INSTALL 12 IN. PEDESTRIAN SIGNAL HEAD SECTION
8011	38 EACH	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8013	1 EACH	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8014	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINARE WITH PHOTOCELL
8016	1 EACH	FURNISH AND INSTALL 3M OPTICOM #764 DISCRIMINATOR MODULE
8017	3 EACH	FURNISH AND INSTALL 3M OPTICOM EMITTER SYSTEM 700 SERIES, VISIBLE LIGHT FILTER AND HARDWARE
8018	1 EACH	FURNISH AND INSTALL 3M OPTICOM #721 DETECTOR EYE
8020	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240 V, 1 PHASE 3 WIRE SYSTEM)
8029	4 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FOOT LEAD-IN
8030	4 EACH	FURNISH AND INSTALL BREAKAWAY PEDESTAL POLE (ANY SIZE)
8032	3 EACH	FURNISH AND INSTALL PUSH BUTTON AND SIGN
8033	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN (50 FT./ 50 FT. MAST ARMS
8034	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN (50 FT./ 60 FT. OR (60 FT./ 50 FT.) MAST ARMS
8047	5 EACH	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12 INCH BELOW GRADE
8048	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8051	40 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8052	440 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8053	100 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8056	350 L.F.	FURNISH AND INSTALL 4 CONDUCTOR OPTICOM DETECTOR CABLE
8057	15 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8060	800 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8062	30 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT- GALVANIZED SLEEVE
8063	100 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8068	30 L.F.	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8070	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 AWG - THHN/THWN
8072	6 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8075	72 S.F.	INSTALL OVERHEAD SIGN
8080	8 EACH	FURNISH AND INSTALL GROUND ROD - $^3/_4$ IN. DIAMETER X 10 FT. LENGTH
8081	4100 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8082	900 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)
8083	1500 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 A.W.G.)
8084	600 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8085	1900 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8086	320 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) TYPE IN. TC. IN.
8087	925 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8088	500 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8091	250 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8093	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 1 + 5	←G—	←G—	R	R	←G—	←G—	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6																	
PHASE 1 + 6	←G—	←G—	G	G	←R—	←R—	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
1 + 6 CHANGE	←Y—	←Y—	G	G	←R—	←R—	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
PHASE 2 + 5	←R—	←R—	R	R	←G—	←G—	G	G	R	R	R	R	WK	DW	DW	WK	DW	DW
2 + 5 CHANGE	←R—	←R—	R	R	←Y—	←Y—	G	G	R	R	R	R	WK	DW	DW	WK	DW	DW
PHASE 2 + 6	←R—	←R—	G	G	←R—	←R—	G	G	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEARANCE	←R—	←R—	G	G	←R—	←R—	G	G	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 + 6 CHANGE	←R—	←R—	Y	Y	←R—	←R—	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 1 + 6	←G—	←G—	G	G	←R—	←R—	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 + 6 CHANGE	←Y—	←Y—	G	G	←R—	←R—	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	←R—	←R—	R	R	←R—	←R—	R	R	G ←G—	G	R	R	DW	DW	DW	DW	DW	DW
3 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	Y	Y	R	R	DW	DW	DW	DW	DW	DW
PHASE 4	←R—	←R—	R	R	←R—	←R—	R	R	R	R	G ←G—	G	DW	DW	DW	DW	DW	DW
4 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	←R—	←R—	R	R	←R—	←R—	R	R	R	R	G ←G—	G	DW	DW	DW	DW	WK	WK
PED CLEARANCE	←R—	←R—	R	R	←R—	←R—	R	R	R	R	G ←G—	G	DW	DW	DW	DW	FL/DW	FL/DW
4 ALT CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW
EMERGENCY	←R—	←R—	R	R	←R—	←R—	R	R	G ←G—	G	R	R	DW	DW	DW	DW	DW	DW
OPERATION	←R—	←R—	R	R	←R—	←R—	R	R	Y	Y	R	R	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	←FL/R—	←FL/R—	FL/Y	FL/Y	←FL/R—	←FL/R—	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
TRAFFIC SIGNALIZATION PLAN
US 40 AND MD 222
(PERRYVILLE, MD)

DRAWN BY: S. BLOSS	F.A.P. NO.	TS NO. TS-290G	SHEET NO.
CHECKED BY: N. LEARY	S.H.A. NO. CE 442A51/CE442B51	T.I.M.S. NO.	3 OF 3
SCALE: NONE	COUNTY: CECIL		
DATE: 8/31/01	LOG MILE: 0700400I.16		

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